

Serial No. 09/432,113

IN THE CLAIMS:

The text of all pending claims are set forth below. Cancelled claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (previously presented), (cancelled), (withdrawn), or (new).

Please AMEND the claims in accordance with the following:

1. (Currently Amended) A graphic editing apparatus, comprising:
a display unit displaying a graphic including a first object and a second object which are connected with each other using a first connector, where the first object, second object, and first connector are all displayed on a display screen; and
an interactive graphical editing unit judging movement of a third object while the user is interactively continuously moving the third object on the display relative to the graphic and automatically designating the first connector when it is judged that the moving third object comes to overlap the first connector after the first object, second object, and first connector have been displayed, and in response to the automatic designating automatically creating and displaying a second connector for connecting the displayed first object and the third object and a third connector for connecting the displayed third object and the second object.

2. (Previously Presented) The graphic editing apparatus according to claim 1, wherein the criteria is met when the first connector and the third object overlap each other during the moving of the third object on the display, in response to the automatic designating said interactive graphical editing unit also automatically creates and displays the second and third connectors.

3. (Previously Presented) The graphic editing apparatus according to claim 1, further comprising:
a judgment unit judging automatically whether a distance between the first object and the second object is sufficient to accommodate the third object between them; and

Serial No.: 09/432,113

a shift unit, if the distance is not sufficient, automatically shifting at least one of the first and second objects.

4. (Original) The graphic editing apparatus according to claim 1, further comprising a management unit managing a subordinate relationship between objects, and the management unit, if the second object is subordinated to the first object before the third object is inserted between the first object and the second object, subordinating the third object to the first object and subordinating the second object to the third object.

5. (Previously Presented) A graphic editing apparatus, comprising:
a display unit displaying a graph including a first object and a second object which are connected with each other using a first connector, where the first object, second object, and first connector are all displayed on a display screen; and
an interactive graphical editing unit with an area on the display screen that is continuously interactively moved on the display relative to the graph by a user of said graphic editing apparatus, and during the continuous interactive movement on the display said editing apparatus judges the movement of the area and when it is judged that the moving designated area overlaps the first connector, the first connector is automatically selected after the first object, second object, and first connector have been displayed, and in response automatically creating and displaying a second connector for connecting the displayed first object and the third object and a third connector for connecting the displayed third object and the second object.

6. (Previously Presented) The graphic editing apparatus according to claim 5, wherein said interactive editing unit automatically shifts the displayed second object, displays the third object in a position where the second object was displayed before the first connector is interactively selected, and stops displaying the first connector.

7. (Previously Presented) The graphic editing apparatus according to claim 5, further comprising a coordinate system providing unit providing a virtual coordinate system defining boxes, in which each box is defined as area for displaying one object, wherein

Serial No.: 09/432,113

said display unit displays each object using the virtual coordinate system, and said interactive editing unit locates each object using the virtual coordinate system.

8. (Currently Amended) A graphic editing apparatus, comprising:

a display unit displaying a graphic comprising a first object, a plurality of second objects and a plurality of first connectors for connecting the first object and the plurality of second objects, where the first object, the plurality of second objects, and the plurality of first connectors are all displayed on a display screen; and

an interactive graphical editing unit judging movement of a third object while the user is interactively continuously moving the third object on the display relative to the graphic and automatically selecting two or more of the plurality of first connectors when it is judged that the third object has moved into proximity of the two or more connectors and overlapping at least one of the two or more connectors, and in response the two or more connectors are selected by a two-dimensional movement relative to the plurality of first connectors after the first object, the plurality of second objects, and the plurality of first connectors have been displayed, and in response to the selecting automatically creating and displaying a second connector for connecting the displayed first object and the third object, and two or more third connectors for connecting two or more of the displayed second objects connected to the interactively selected first connector and the third object.

9. (Currently Amended) A graphic editing method, comprising:

displaying a graphic including a first object and a second object which are connected with each other using a first connector, where the first object, second object, and first connector are all displayed on a display screen; and

judging movement of a third object while it is interactively moving on the display screen relative to the graphic by a continuous two-dimensional movement and when it is judged that the third object has been so moved to a predetermined overlapping position in relation to the first connector after the first object, second object, and first connector have been displayed, and in response automatically creating and displaying a second connector for newly connecting the displayed first object and the third object and a third connector for newly connecting the third object and the second object.

Serial No.: 09/432,113

10. (Previously Presented) A graphic editing method, comprising:

displaying a graph including a first object and a second object which are connected with each other using a first connector, where the first object, the second object, and the first connector are all displayed on a display screen; and

after the first object, second object, and first connector have been displayed, judging a user's continuous interactive two-dimensional movement input to determine when during the movement the movement overlaps the first connector, and in response to the determining automatically designating or selecting the first connector as an insertion target by automatically inserting a third object by creating and displaying a second connector for connecting the first object and the third object and a third connector for connecting the third object and the second object.

11. (Currently Amended) A storage medium on which a program enabling a computer to execute a process is stored, the process comprising:

displaying, by a graphic editing tool, a graphic including a first object and a second object which are connected with each other using a first connector, where the first object, the second object, and the first connector are all displayed on a display screen; and

while the first object, second object, and first connector are being displayed, judging a user's continuous interactive moving of a third object during display of the interactive movement and automatically selecting or designating the first connector when it is judged that the third object has been so interactively placed by the movement to a predetermined position overlapping the first connector, and in response inserting the third object by creating and displaying a second connector for connecting the displayed first object and the third object and a third connector for connecting the third object and the second object.

12. (Previously Presented) A storage medium on which a program enabling a computer to execute a process is stored, the process comprising:

displaying a graph including a first object and a second object which are connected with each other using a first connector, where the first object, the second object, and the first connector are all displayed on a display screen; and

Serial No.: 09/432,113

while the first object, second object, and first connector are being displayed, judging a user's interactive continuous two-dimensional movement and when during the movement it is judged that the movement overlaps the first connector automatically treating the first connector as a selected target for insertion by automatically inserting a third object by creating and displaying a second connector for connecting the displayed first object and the third object and a third connector for connecting the displayed third object and the second object.

13. (Currently Amended) A method of interactively graphically inserting a node into a displayed graph comprising displayed nodes and connectors graphically connecting the nodes, said method comprising:

interactively designating a displayed first connection in the displayed graph by comparing a position of the first connection with positions of an insertion node or representation thereof as the insertion node or representation thereof is being displayed while being continuously moved by the input device, where the displayed first connection visually overlaps or connects a first displayed node and a second displayed node of the displayed graph; and

responsive to said interactive designating, automatically inserting the insertion node into the displayed graph by automatically displaying a second connection to newly connect the insertion node to the displayed first node, and by automatically displaying a third connection to newly connect the insertion node to the displayed second node.

14. (Previously Presented) A graphic editing apparatus, comprising:

a display unit displaying a first object, a second object, and a first connector, the objects being graphically connected with each other by the first connector; and

an editing unit, judging a movement of a displayed third object being while it is interactively located by a continuous two-dimensional movement and automatically designating or selecting the first connector when it is judged that the third object is or will overlap or contact the first connector on the display unit as a result of the moving, and in response displaying a second connector to newly graphically connect the displayed first object and the displayed third object, and displaying a third connector to newly graphically connect the third object and the second object.

Serial No.: 09/432,113

15. (Previously Presented) A method, comprising:

interacting with a graphical user interface to designate or select, among connectors of a displayed graph, a connector to be a target for inserting a node between existing edge-connected nodes of the displayed graph by dragging the node over or near the connector connecting the existing nodes, where when it is judged during the dragging that the dragging node is or will overlap the connector the connector is designated or selected; and

responsive to the designating or selecting of the node, automatically displaying connectors in the graph to newly connect the existing nodes with the inserted node and automatically undisplaying the connector connecting the existing nodes.

16. (Currently Amended) A method of displaying on a display, comprising:

displaying first and second graphical nodes and displaying a first graphical line graphically connecting the first and second graphical nodes;

while said displaying, interactively designating the first displayed line as a target for insertion by judging the dragging of a new node graphic and designating or selecting the first displayed line when the it is judged that the new node is dragged ~~over or near to a position~~ overlapping the first displayed line; and

in response to said interactive designating automatically: undisplaying the selected first line, displaying a new first line and a new second line graphically connecting the new graphical node to the first and second graphical nodes.

17. (Cancelled).

18. (Previously Presented) A method according to claim 11, wherein the interactive placement comprises interactively selecting the first connector by one of (1) dragging the new node over or near the first connector and (2) dropping the new node onto or near the first connector.

19. (Currently Amended) A method of inserting interactively and graphically connecting a node to a displayed graph, comprising:

displaying the graph;

Serial No.: 09/432,113

dragging a graphic node to change a location of the graphic node relative to the displayed graph; and

during the dragging judging the dragging and when it is judged that the location of the graphic node comes into ~~proximity with a~~ position overlapping a connector connected to an existing node in the graph, automatically treating the connector as an insertion target designated by the dragging by displaying a graph connector newly visually connecting the graphic node to the existing node.

20. (Previously Presented) A graphic editing apparatus, comprising:

a display unit displaying a graphic including a first object and a second object which are connected with each other using a first connector, where the first object, second object, and first connector are all displayed on a display screen; and

an interactive graphical editing unit responding to a judgment that a third object has been interactively placed by a continuous two-dimensional movement on the display screen so as to overlap the first connector after the first object, second object, and first connector have been displayed, by automatically displaying a connector newly connecting the displayed first object and the third object and another connector newly connecting the displayed third object and the second object.